



Cleantech Supercars

Who is Wrightspeed?

- Silicon Valley startup company
- In Burlingame
- Building Pure Electric Vehicles
- At the dawn of the Energy Age



Why Build Electric Vehicles?

It's the Future of Personal Transportation

- Energy efficiency:
 - Electric cars are 3x the efficiency of hybrids, 4x fuel cell vehicles.
 - ~80% efficient grid to wheels means
 - No other technology will make a big improvement, ever
 - Today's technology is good enough: no point in waiting



The Future of Personal Transportation

- Energy Source
 - Electricity is the universal energy exchange mechanism.
 - Can be generated by burning fossil fuels, more efficiently than in cars, with less pollution, sited away from cities.
 - Or from renewable sources.



But Why Electric *Supercars*?

- An interesting property of electric drivesystems: no tradeoff between efficiency and performance.
 - i.e. we can
- Lower market risk for a startup company



The Wrightspeed X1 Prototype



X1 prototype wins against Carrera GT (605hp) at Sears Point Nov 8 '05



Wrightspeed X1 Prototype

- Street legal proof-of-concept car
- Performance test, on *street tires*:
 - 0 – 60 mph 3.069 seconds, 117 ft
 - 0 -100 mph 6.867 seconds
 - 0-100-0 mph 11.165 seconds
 - 1.2g turning and braking, 0.87g accelerating
- Still, 170 mpg equivalent energy consumption



Vital Statistics

- Batteries
 - 25kWhr high power Lithium Ion, 400V
 - 538 lb battery system
 - Delivers ~ 200kW to the power electronics
- Inverter and motor:
 - AC Propulsion 3-phase induction system
 - ~ 170kW at the motor shaft
 - 183 ft lbs torque, 0-6,000 rpm
 - 13,300 rpm limit
 - Regen braking, control integrated with accelerator
 - Traction control in drive and regen



Vital Statistics

- Transmission: single speed, 8.25:1 reduction, LSD
- Chassis: modified Ariel Atom
 - Tubular steel, non-structural composite body panels
- Total car weight 1536 lbs
- Weight distribution 68 % rear 32% front
- 4-piston caliper front brakes, single piston rear



Production Car

- Still at least 2 years away
- Similar to prototype, but every piece will change
- Larger capacity for more range
- Higher power for slightly higher performance
- Will use the Tesla charging standard

